

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A transmission power control apparatus for a wireless communication apparatus for reducing a power value of a signal input to a power amplifier to the maximum allowable, input power value of said power amplifier or below, said transmission power control apparatus comprising:

~~transmission power control parts each for controlling a transmission power of a call according to transmission power control information sent from a communication apparatus that is a sending destination of said call;~~

~~a setting part for setting a transmission power upper limit value for each of said transmission power control parts, the transmission power upper limit value being determined according to a circuit type of said call, wherein each transmission power control part reduces said transmission power for said call to said transmission power upper limit value or below~~

a setting part for setting a transmission power upper limit value of a call according to a circuit type of said call, wherein the circuit type includes a packet switching type and a circuit switching type, said transmission power upper limit value comprising a first transmission power upper limit value and a second transmission power upper limit value, wherein the first transmission power upper limit value corresponds to the packet switching type call and the second transmission power upper limit value corresponds to the circuit switching type call, wherein the first transmission power upper limit value is lower than the second transmission power upper limit value; and

a power reducing part for reducing transmission power for said call to or below said transmission power upper limit value depending on said call type.

Claim 2 (Currently Amended): The transmission power control apparatus as claimed in claim 1, wherein said setting part sets said first transmission power upper limit value according to a degree of delay and a degree of bit-error rate (BER) which can be allowed for said circuit switching type.

Claims 3-5 (Cancelled).

Claim 6 (Currently Amended): The transmission power control apparatus as claimed in claim [[5]] 1, wherein, said setting part reduces said first upper limit value by a first predetermined ratio when said over-input to said power amplifier occurs, and said setting part increases said first upper limit value by a second predetermined ratio which is lower than said first predetermined ratio when said over-input to said power amplifier does not occur.

Claim 7 (Original): The transmission power control apparatus as claimed in claim 1, wherein said setting part monitors occurrence of over-input to said power amplifier, and sets another transmission power upper limit value when said over-input occurs.

Claim 8 (Original): The transmission power control apparatus as claimed in claim 1, wherein said setting part monitors occurrence of call loss, and sets another transmission power upper limit value when said call loss occurs.

Claim 9 (Currently Amended): A transmission power control apparatus for a wireless communication apparatus for reducing a power value of a signal input to a power amplifier to the maximum allowable input power value of said power amplifier or below, said transmission power control apparatus comprising:

~~transmission power control parts each for controlling a transmission power of a call according to transmission power control information sent from a communication station that is a sending destination of the call;~~

~~an SIR determining part for determining a control target SIR according to a circuit type of said call;~~

~~a target SIR setting part for sending said control target SIR to said communication station corresponding to said call, wherein said communication station determines said transmission power control information by comparing said control target SIR with an SIR of a received signal~~

a SIR determining part for determining a control target SIR value of a call according to a circuit type of said call, wherein the circuit type includes a packet switching type and a circuit switching type, said control target SIR value comprising a first control target SIR value and a second control target SIR value, said first and second control target SIR values corresponding to said circuit type;

a target SIR setting part for setting a first control target SIR value for a packet switching type call and a second control target SIR for a circuit switching type call, wherein the first control target SIR value is lower than the second control target value; and

a target SIR sending part for sending the first control target SIR value and a second control target SIR value to a communication station.

Claim 10 (Currently Amended): The transmission power control apparatus as claimed in claim 9, wherein said SIR determining part sets said first control target SIR according to a degree of delay, and a degree of bit-error rate (BER) which can be allowed for said circuit switching type.

Claims 11-12 (Cancelled).

Claim 13 (Currently Amended): The transmission power control apparatus as claimed in claim [[11]] 9, wherein said SIR determining part monitors occurrence of over-input to said power amplifier, and sets another control target SIR when said over-input occurs.

Claim 14 (Original): The transmission power control apparatus as claimed in claim 13, wherein, said SIR determining part reduces said first control target SIR by a first predetermined ratio when said over-input to said power amplifier occurs, and said SIR determining part increases said first control target SIR by a second predetermined ratio which is lower than said first predetermined ratio when said over-input to said power amplifier does not occur.

Claim 15 (Original): The transmission power control apparatus as claimed in claim 9, wherein said SIR determining part monitors occurrence of over-input to said power amplifier, and sets another control target SIR when said over-input occurs.

Claim 16 (Original): The transmission power control apparatus as claimed in claim 9, wherein said SIR determining part monitors occurrence of call loss, and sets another control target SIR when said call loss occurs.

Claim 17 (Original): The transmission power control apparatus as claimed in claim 1, wherein said transmission power control apparatus is provided in a base station of a wireless communication system.

Claim 18 (Original): The transmission power control apparatus as claimed in claim 9, wherein said transmission power control apparatus is provided in a base station of a wireless communication system.

Claim 19 (Currently Amended): A mobile station for communicating with a base station, said base station comprising:

a part for comparing a received SIR with a target SIR which is stored in said base station, and sending transmission power control information to said base station according to the comparing result;

a part for receiving a control target SIR from said base station, and setting said control target SIR as a new target SIR to be compared with said received SIR;

wherein said base station includes a transmission power control apparatus for reducing a power value of a signal input to a power amplifier to the maximum allowable input power value of said power amplifier or below, said transmission power control apparatus comprising:

~~transmission power control parts each for controlling a transmission power of a call according to transmission power control information sent from a mobile station that is a sending destination of the call;~~

~~an SIR determining part for determining said control target SIR according to a circuit type of said call;~~

~~a target SIR setting part for sending said control target SIR to said mobile station~~

a SIR determining part for determining a control target SIR value of a call according to a circuit type of said call, wherein the circuit type includes a packet switching type and a circuit switching type, said control target SIR value comprising a first control target SIR value and a second control target SIR value, said first and second control target SIR values corresponding to said circuit type;

a target SIR setting part for setting a first control target SIR value for a packet switching type call and a second control target SIR for a circuit switching type call, wherein the first control target SIR value is lower than the second control target value; and

a target SIR sending part for sending the first control target SIR value and a second control target SIR value to a communication station.

Claim 20 (Currently Amended): A transmission power control method used for a wireless communication apparatus for reducing a power value of a signal input to a power amplifier to the maximum allowable input power value of said power amplifier or below, ~~said wireless communication apparatus including transmission power control parts each for controlling a transmission power of a call according to transmission power control information sent from a communication apparatus that is a sending destination of said call,~~

said transmission power control method comprising the steps of:

~~setting a transmission power upper limit value for each of said transmission power control parts, the transmission power upper limit value being determined according to a circuit type of said call; and~~

~~reducing transmission power for said call to said transmission power upper limit value or below~~

setting a transmission power upper limit value of a call according to a circuit type of said call, wherein the circuit type includes a packet switching type and a circuit switching

type, said transmission power upper limit value comprising a first transmission power upper limit value and a second transmission power upper limit value, wherein the first transmission power upper limit value corresponds to the packet switching type call and the second transmission power upper limit value corresponds to the circuit switching type call, wherein the first transmission power upper limit value is lower than the second transmission power upper limit value; and

reducing transmission power for said call to or below said transmission power upper limit value depending on said call type.

Claim 21 (Currently Amended): The transmission power control method as claimed in claim 20, wherein said first transmission power upper limit value is set according to a degree of delay and a degree of bit-error rate (BER) which can be allowed for said circuit switching type.

Claims 22-23 (Cancelled).

Claim 24 (Original): The transmission power control method as claimed in claim 22, wherein another transmission power upper limit value is set when said over-input to said power amplifier occurs.

Claim 25 (Original): The transmission power control method as claimed in claim 24, comprising the steps of:

reducing said first upper limit value by a first predetermined ratio when said over-input to said power amplifier occurs;

increasing said first upper limit value by a second predetermined ratio which is lower than said first predetermined ratio when said over-input to said power amplifier does not occur.

Claim 26 (Original): The transmission power control method as claimed in claim 20, wherein another transmission power upper limit value is set when over-input to said power amplifier occurs.

Claim 27 (Original): The transmission power control method as claimed in claim 20, wherein another transmission power upper limit value is set when call loss occurs.

Claim 28 (Currently Amended): A transmission power control method used for a wireless communication apparatus for reducing a power value of a signal input to a power amplifier to the maximum allowable input power value of said power amplifier or below, said ~~wireless communication apparatus including transmission power control parts each for controlling a transmission power of a call according to transmission power control information set from a communication station that is a sending destination of said call,~~

said transmission power control method comprising the steps of:

~~determining a control target SIR according to a circuit type of said call; and~~

~~sending said control target SIR to a communication station corresponding to said call,~~

~~wherein said communication station determines said transmission power control information by comparing said control target SIR with an SIR of a received signal~~

determining a control target SIR value of a call according to a circuit type of said call,
wherein the circuit type includes a packet switching type and a circuit switching type, said
control target SIR value comprising a first control target SIR value and a second control

target SIR value, said first and second control target SIR values corresponding to said circuit type;

setting a first control target SIR value for a packet switching type call and a second control target SIR for a circuit switching type call, wherein the first control target SIR value is lower than the second control target value; and

sending the first control target SIR value and a second control target SIR value to a communication station.

Claim 29 (Currently Amended): The transmission power control method as claimed in claim 28, wherein said first control target SIR is set according to a degree of delay and a degree of bit-error rate (BER) which can be allowed for said circuit switching type.

Claims 30-31 (Cancelled).

Claim 32 (Currently Amended): The transmission power control method as claimed in claim ~~30~~ 29, wherein another control target SIR is set when over-input to said power amplifier occurs.

Claim 33 (Original): The transmission power control method as claimed in claim 32, comprising the steps of:

reducing said first control target SIR by a first predetermined ratio when said over-input to said power amplifier occurs;

increasing said first control target SIR by a second predetermined ratio which is lower than said first predetermined ratio when said over-input to said power amplifier does not occur.

Claim 34 (Original): The transmission power control method as claimed in claim 28, wherein another control target SIR is set when over-input to said power amplifier occurs.

Claim 35 (Original): The transmission power control method as claimed in claim 28, wherein another control target SIR is set when call loss occurs.

Claim 36 (Currently Amended): A transmission power control apparatus for a wireless communication apparatus for reducing a power value of a signal of calls input to a power amplifier to the maximum allowable input power value of said power amplifier or below, said transmission power control apparatus comprising:

~~transmission power control parts each for controlling a transmission power of a call according to transmission power control information sent from a communication apparatus that is a sending destination of said call;~~

~~a classifying part for classifying calls output from said transmission power control parts into a plurality of groups;~~

~~a power reducing part for reducing a power value individually for each group such that a power value of said calls is equal to or below the maximum allowable input power value of said power amplifier~~

a classifying part for classifying calls into a circuit switching type group and a packet switching type group;

a power setting part for setting a first transmission power upper limit value of said circuit switching type group and a second transmission power upper limit value of said packet switching type group, wherein the second transmission power upper limit value is lower than the first transmission power upper limit value; and

a power reducing part operable to reduce a power value individually for each group such that a power value of said calls is equal to or below the maximum allowable input value of said power amplifier.

Claim 37 (Cancelled).

Claim 38 (Currently Amended): The transmission power control apparatus as claimed in claim ~~37~~ 36, wherein said classifying part classifies said calls according to degree of delay and degree of bit-error rate (BER) which is allowed by a circuit type of each call.

Claims 39-40 (Cancelled).

Claim 41 (Currently Amended): The transmission power control apparatus as claimed in claim ~~[[39]]~~ 36, wherein said power reducing part reduces only a power value of a group of said packet switching type.

Claim 42 (Currently Amended): The transmission power control apparatus as claimed in claim ~~[[37]]~~ 36, wherein the number of said plurality of groups and said upper limit value for each group are changed according to types of said calls.

Claim 43 (Original): The transmission power control apparatus as claimed in claim 36, wherein said classifying part assigns priority for each call according to circuit characteristics of said each call, and said power reducing part reduces a power value of a call according to said priority.

Claim 44 (Original): The transmission power control apparatus as claimed in claim 43, wherein said classifying part assigns said priority such that the larger a degree of delay which is allowed by said call is, the lower said priority is, and,

said power reducing part reduces each power value of a part of calls in ascending order of said priority such that a power value of calls input to said power amplifier is equal to or below the maximum allowable input power value of said power amplifier.

Claim 45 (Original): The transmission power control apparatus as claimed in claim 44, wherein said power reducing part does not reduce a power value of a call which has priority within predetermined levels from the highest priority.

Claim 46 (Cancelled).

Claim 47 (Currently Amended): A transmission power control method used for a wireless communication apparatus for reducing a power value of a signal of calls input to a power amplifier to the maximum allowable input power value of said power amplifier or below, ~~said wireless communication apparatus including transmission power control parts each for controlling a transmission power of a call according to transmission power control information sent from a communication apparatus that is a sending destination of said call,~~ said transmission power control method comprising the steps of:

~~classifying calls output from said transmission power control parts into a plurality of groups; and~~

~~reducing a power value individually for each group such that a power value of said calls is equal to or below the maximum allowable input power value of said power amplifier~~

classifying calls into a circuit switching type group and a packet switching type group;

setting a first transmission power upper limit value of said circuit switching type group and a second transmission power upper limit value of said packet switching type group, wherein the second transmission power upper limit value is lower than the first transmission power upper limit value; and

reducing a power value individually for each group such that a power value of said calls is equal to or below the maximum allowable input value of said power amplifier.

Claim 48 (Cancelled).

Claim 49 (Currently Amended): The transmission power control method as claimed in claim 48 47, wherein said calls are classified according to degree of delay and a degree of bit-error rate (BER) which is allowed by a circuit type of each call.

Claims 50-51 (Cancelled).

Claim 52 (Currently Amended): The transmission power control method as claimed in claim ~~50~~ 47, wherein only a power value of a group of said packet switching type is reduced.

Claim 53 (Currently Amended): The transmission power control method as claimed in claim 48 47, wherein the number of said plurality of groups and said upper limit value for each group are changed according to types of said calls.

Claim 54 (Original): The transmission power control method as claimed in claim 47, comprising the steps of:

assigning priority for each call according to circuit characteristics of said call; and
reducing a power value of a call according to said priority.

Claim 55 (Original): The transmission power control method as claimed in claim 54, comprising the steps of:

assigning said priority such that the larger a degree of delay which is allowed by said call is, the lower said priority is; and

reducing each power value of a part of calls in ascending order of said priority such that a power value of calls input to said power amplifier is equal to or below the maximum allowable input power value of said power amplifier.

Claim 56 (Original): The transmission power control method as claimed in claim 55, wherein a power value of a call which has priority within predetermined levels from the highest priority is not reduced.

Claim 57 (Original): The transmission power control method as claimed in claim 54, comprising the steps of:

assigning said priority such that the larger a degree of delay which can be allowed by said call, the lower said priority is;

determining at least a power reduction subject call from a call having the lowest priority in ascending order of priority such that a power value of calls input to said power amplifier becomes equal to or below said maximum allowable input power value if it is

assumed that each power value of said at least a power reduction subject call is reduced to a minimum power value which can maintain synchronization;

reducing each power value of calls in said at least a power reduction subject call other than calls having the highest priority in said at least a power reduction subject call to a minimum power value which can maintain synchronization; and

reducing each power value of calls having the highest priority in said at least a power reduction subject call evenly by a predetermined ratio such that a power value of calls input to said power amplifier becomes equal to or below said maximum allowable input power value.

Claim 58 (New): The transmission power control apparatus as claimed in claim 1, wherein said setting part adaptively sets said second transmission power upper limit value according to a degree of delay and a degree of bit-error rate (BER)

Claim 59 (New): The transmission power control apparatus as claimed in claim 1, wherein said setting part sets said second transmission power upper limit value according to a degree of delay and a degree of bit-error rate (BER) which can be allowed for said packet switching type.

Claim 60 (New): The transmission power control method as claimed in claim 20, wherein said second transmission power upper limit value is set according to a degree of delay which can be allowed for said packet switching type.

Claim 61 (New): The transmission power control method as claimed in claim 28, wherein said second control target SIR is set according to a degree of delay and a degree of bit-error rate (BER) which can be allowed for said packet switching type.